IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

NEODRON LTD., Plaintiff, v. DELL TECHNOLOGIES INC., Defendant.	Case No. 1:19-cv-00819-ADA
NEODRON LTD., Plaintiff, v. HP, INC., Defendant.	Case No. 1:19-cv-00873-ADA
NEODRON LTD., Plaintiff, v. MICROSOFT CORPORATION, Defendant.	Case No. 1:19-cv-00874-ADA
NEODRON LTD., Plaintiff, v. AMAZON.COM, INC., Defendant.	Case No. 1:19-cv-00898-ADA

NEODRON LTD., Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD. and SAMSUNG ELECTRONICS AMERICA, INC., Defendant.	Case No. 1:19-cv-00903-ADA

DEFENDANTS' OPENING CLAIM CONSTRUCTION BRIEF ON THE DISPUTED TERMS OF THE TOUCH SENSOR PATENTS

(U.S. PATENT NOS. 8,946,574; 9,086,770; 9,823,784; 10,088,960; and 7,821,502)

TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES

Page(s)

CASES

TABLE OF AUTHORITIES
(Cont'd)

Page(s)

Defendants respectfully submit their opening claim construction brief for the disputed terms of U.S. Patent Nos. 8,946,574; 9,086,770; 9,823,784; 10,088,960; and 7,821,502 (collectively the "touch sensor patents").[1] The agreed constructions for these patents are set out in the Joint Claim Construction Statement.

I. INTRODUCTION

In this series of cases, Neodron asserts more than 150 claims of 13 patents against seven groups of defendants. Despite the obvious need to narrow the scope and breadth of these cases before fact and expert discovery and trial, Defendants have identified below only the key claim terms requiring construction. For most terms, Defendants' constructions reflect the plain and ordinary meaning to one of ordinary skill in the art,[2] as informed by the patent specification and file history. Where Defendants' constructions depart from the plain and ordinary meaning, it is only because (a) the claim term in dispute has no accepted plain and ordinary meaning, (b) the applicants acted as their own lexicographer in defining a term, or (c) the claim term is indefinite. For the reasons demonstrated below, the Court should adopt Defendants' correct constructions.

Neodron's proposed constructions—and its positions during the meet-and-confer process leading up to claim construction briefing—are a different story. Neodron frequently claims that

---

[1] The asserted touch sensor patents also include U.S. Patent No. 9,965,106, but the parties have not identified any disputed terms from that patent that require resolution by the Court. Defendants are filing a separate opening claim construction brief to cover the disputed terms of the touch processing patents, which includes U.S. Patent Nos. 8,451,237; 8,102,286; and 10,365,747.

[2] A person of ordinary skill in the art at the time of the applications of the patents addressed in this brief would have had at least a Bachelor's Degree in Physics, Electrical or Computer Engineering, or Computer Science or the equivalent, plus at least two years of experience in the field of touch sensors, signal processing, human-computer interaction or interfaces, graphical user interfaces, or a related field. Additional education could substitute for work experience and vice-versa.

no construction is necessary and merely parrots the claim language in its "constructions," while refusing to agree with Defendants' constructions or, worse yet, refusing to confirm why and how it disagrees with Defendants' positions. In the rare instance where Neodron provides an actual construction, its proposals contradict the intrinsic evidence, inject ambiguity, and consist primarily or solely of attorney argument. Neodron's goal is obvious—it wants to keep the asserted claims as flexible and as malleable as possible, so it can try to take different positions on infringement versus invalidity, both in these cases and in the pending IPRs, which have now been filed on all but four of the asserted patents. But flexibility and malleability are not the goals of claim construction, so the Court should reject Neodron's attempt to inject ambiguity and uncertainty into the claim construction process.

II. THE DISPUTED TERM OF U.S. PATENT NO. 8,946,574

Touch capacitive sensors have been around for several decades. The '574 patent is directed to a specific touch sensor configuration. The '574 patent requires that the drive and sense electrodes are disposed on either side of the same substrate and may be formed of conductive lines that interconnect "to define a conductive grid or mesh pattern made up of an array" of mesh cells, which can be, for example square-shaped, trapezoid-shaped, or diamond-shaped. '574 patent at 3:64-4:1, 4:44-48, 14:49-54.

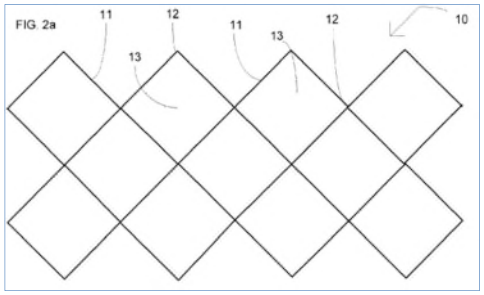
A. "mesh" ('574 patent, claims 1, 8, 15)

Defendants' Construction	Neodron's Construction
Set of thin wires that surround open spaces in a net or network	Plain and ordinary meaning; no construction necessary: "mesh"

Defendants' construction is consistent with the intrinsic record and is necessary to aid the jury in understanding this term as used in the art of touch sensor technology. Independent claims 1, 8, and 15 recite that the drive and/or sense electrodes "be[] made of a conductive mesh [of]

conductive material comprising metal." '574 patent at 14:52-54, 15:18-19, 16:20-22 (emphasis added). Because the claims expressly require the mesh be made of metal, materials that are not considered to be a metal, such as indium tin oxide ("ITO"), are excluded from the scope of the claims. Declaration of Aris K. Silzars Regarding Claim Construction ("Silzars Decl."), ¶¶ 57-59. A person of ordinary skill would have understood that ITO is a semiconducting oxide and not a metal. Such a person would also have known that ITO would not have sufficient conductivity and would be too brittle to be formed into a mesh, while thin wires are commonly used as ITO alternatives to form mesh electrodes. *Id.* Therefore, the claimed "mesh" can be formed from a set of thin wires but cannot be made from ITO.

The specification also uses the term consistent with understanding of a person of ordinary skill and supports Defendants' construction that a "mesh" is "set of thin wires that surround open spaces in a net or network." The specification discloses that the described mesh embodiments "relate to conductor elements and patterns of copper" but that "other metals suitable for use as wire pattern material" can be used. '574 patent at 14:32-35. The specification consistently describes a "mesh" being formed to surround open spaces in a net or network. For example, Figure 2a (to the right) is described as follows: "The electrode pattern 10 may be formed by a number of straight conductive lines 11 arranged to interconnect at connection points to define a conductive grid or mesh pattern made up of an array of square shaped mesh cells 13 arranged in a layer." '574 patent at 3:64-4:1.



The defining feature of the "mesh" as used in the patent is the "mesh cell," a term used repeatedly throughout the specification. The mesh cells can be "square shaped," *e.g.*, *id.* at 4:1,

"trapezoid shaped," *e.g.*, *id.* at 4:45, or "diamond shaped," *e.g.*, *id.* at 4:47, and the lines that make up the mesh cell can be straight, *e.g.*, *id.* at 3:65-66, or sinusoidal, *e.g.*, *id.* at 5:5-8. A person of ordinary skill would understand that the mesh cells form a net or network that surround open spaces as depicted in Figure 2a, for example. Silzars Decl., ¶¶ 55-56 Regardless of the shape of the mesh cell, it always is formed of a set of thin wires that surround open spaces in a net or network, consistent with the meaning of the term to a person of ordinary skill in this art and as reflected in Defendants' construction. *See Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1303 (Fed. Cir. 2004) ("repeatedly, consistently, and exclusively" using a term in a certain way can manifest "the patentee's clear intent to so limit the term"); *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (quoting *Irdeto Access*, 383 F.3d at 1300) ("Even when guidance is not provided in explicit definitional format, the specification may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents.").

The patent also distinguishes between electrodes formed of mesh and electrodes formed of ITO:

> While clear conductors such as ITO may be used for electrodes, opaque metal electrodes also may be used. <u>The opaque metal electrodes may be made of a conductive mesh of thin conductors</u>, which may be of copper, silver or other conductive materials. The thin conductors may be made very thin as to be substantially invisible to the naked eye.

'574 patent at 1:51-56 (emphasis added). Thus, the specification establishes that ITO is not used to form the claimed "mesh."

Unlike Neodron's non-construction, relevant dictionary definitions of "mesh" confirm that Defendants' construction correctly captures the plain and ordinary meaning of the term. *The New Oxford American Dictionary* (2nd ed. 2005) defines "mesh" as "material made of a network

of wire or thread." Silzars Decl., Ex. 2 at 1063; *see also id.*, Ex. 3, *The Am. Heritage Dictionary* at 1101 (4th ed. 2000) ("the cords, threads, or wires surrounding . . . the open spaces in a net or network"). Even the dictionary Neodron cites confirms that a "mesh" is made from a network of wire. *See id.*, Ex. 4 (Lexico definition of "mesh" as "Material made of a network of wire or thread"). Defendants' construction of "mesh" therefore reflects that term's plain and ordinary meaning.

Accordingly, based on the intrinsic and extrinsic record, a person of ordinary skill in the art would understand that "mesh" means a "set of thin wires that surround open spaces in a net or network."

III. THE DISPUTED TERMS OF U.S. PATENT NO. 9,086,770

The claims of the '770 patent are directed to "a touch position-sensing panel" that uses a particular type and arrangement of electrodes on two sides of a substrate to form the sensing area. *See* '770 patent, Abstract; claim 7. The electrodes are arranged in two layers (one on each side of the substrate) laid out in different directions. *Id.* The electrodes are formed from a conductive mesh material by creating cuts in the mesh so that adjacent electrodes are separated by gaps that run the length of the sensing area. *Id.* at 6:39-7:19, 12:1-4. This arrangement results in electrodes that are generally quadrilateral, which the specification distinguishes from prior art interdigitated (*i.e.*, interlocked or digitized) electrodes. *Id.* at 8:32-54, 11:31-47. The patent discloses prior art interdigitated electrodes in connection with Figure 3 and discloses quadrilateral electrodes in connection with Figures 4-6.

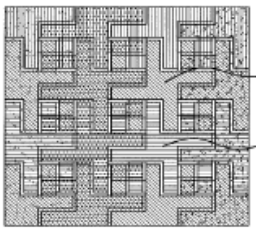


FIG. 3C

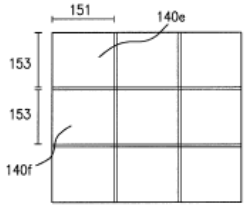


FIG. 4C

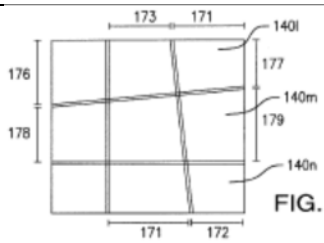


FIG. 6C

The specification discloses that the prior art electrodes have protruding digits that alternate with the adjacent electrodes to produce an "interdigitated" pattern as shown in Figures 3A-3C. *Id.* at 7:41-49 (describing interdigitated drive electrodes with respect to Figure 3A); *see also id.* at 7:57-8:3 (describing interdigitated sense electrodes with respect to Figure 3B).

A. "generally straight line" ('770 patent, claim 7)

Defendants' Construction	Neodron's Construction
Indefinite	Plain and ordinary meaning; no construction necessary

The '770 patent differentiates the purportedly inventive "generally quadrilateral" electrodes from prior art "interdigitated electrodes." The boundaries of both types of electrodes are formed by gaps that run between the electrodes, and independent claim 7 specifies that the gaps "run[] in a generally straight line from one side of the sensing area to an opposing side of the sensing area." But the claim term "generally straight line" cannot differentiate with reasonable certainty between the gaps of the claimed electrodes and the prior art gaps that define interdigitated electrodes. Claim 7 therefore is indefinite. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014) ("[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.").

Independent claim 7 is indefinite because there is no common understanding among those of ordinary skill in the art about what a "generally straight line" is relative to the distinguished

art, and the patent does not define one. "Generally straight line" is a term of degree. *See Liberty Ammunition, Inc. v. U.S.*, 835 F.3d 1388, 1395-96 (Fed. Cir. 2016) (term of degree "necessarily calls for a comparison against some baseline"). Claims reciting terms of degree are indefinite if they fail to provide '"objective boundaries for those of skill in the art' when read in light of the specification and the prosecution history." *Liberty Ammunition*, 835 F.3d at 1395-96 (quoting *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370-71 (Fed. Cir. 2014)); *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010) (term of degree requires "some standard for measuring that degree"); *Brazabra Corp. v. CE Soir Lingerie Co., Inc.*, No. 1-18-cv-00683, Dkt. No. 35 at 9-13 (W.D. Tex. Aug. 15, 2019) ("a substantial area" indefinite because there is no objective measure to assess the boundary of the term in the intrinsic and extrinsic evidence); *Intel Corp. v. Tela Innovations, Inc.*, No. 3:18-CV-02848-WHO, 2019 WL 5697922, at *12 (N.D. Cal. Nov. 4, 2019) ("physically and electrically separated by a [conductor] line end spacing of minimum size" indefinite).

The *Intel* decision is particularly instructive. In *Intel*, the district court considered the definiteness of the term "physically and electrically separated by a [conductor] line end spacing of minimum size." 2019 WL 5697922, at *10. The court observed that although the "intrinsic evidence reveals *where* 'line end spacing' is located and *why* 'minimum size' is desirable," it provided "no objective way to determine *what* 'minimum size' means." *Id.* at 12 (italics in original). The court also rejected the patentee's argument that a person of ordinary skill would understand "minimum spacing" in terms of the design rules for producing a semiconductor device, because "[t]he design rules for any given semiconductor device cannot serve as the objective bounds for determining minimum size; the patent must do that." *Id.* (emphasis added).

Here, the '770 patent suffers from similar flaws. The patent discloses no objective boundaries for determining what constitutes a gap that runs in a "generally straight line" between electrodes. In Figures 3A-C and the accompanying text, the patent discloses prior art interdigitated electrodes with gaps shaped like a square wave that runs in a straight line from one side of the sensing area to the other. The specification explains why "generally straight" gaps might be desirable by criticizing interdigitated electrodes based on the precision of the gaps required to form them: "the interdigitated pattern may make it difficult to employ in touch sensors with certain space or shape requirements that may prevent or limit the very precise cuts required in the conductive mesh." '770 patent at 8:33-36. The specification also criticizes prior art interdigitated electrodes as not suitable for all dimensions of electrodes. *Id.* at 8:36-45. However, as in *Intel*, the patent does not explain what "generally straight" means, nor how it is different from the prior art.

The specification teaches that these problems of precision are solved by using electrodes with generally quadrilateral electrodes: "To address these challenges, the teachings of the disclosure recognize that it is possible to use generally quadrilateral electrodes without one or more digits in an orthogonal pattern." *Id.* at 8:45-48; 12:17-20; 13:34-38 ("Additionally, forming quadrilaterally shaped drive and sense electrodes in a conductive mesh may not require the same cutting precision required for electrodes of particular shapes, for example electrodes comprising one or more digits."). The patent discloses examples of generally quadrilateral electrodes in Figures 4, 5, and 6, which show gaps that run in a perfectly straight line from one side of the sensing area to the other.

However, the '770 patent fails to inform a person of ordinary skill in the art how to determine whether gaps with other shapes (*i.e.*, other than the perfectly straight gaps in Figs. 4-6)

run in a "generally straight" line from one side of the sensing area to the other as recited in the claim. For example, is a gap with a lower amplitude square wave running straight across the sensing area a generally straight line? What about a gap shaped like a sine wave, or a zigzag? Each of these examples can, in some sense, be described as a shape that runs in a straight line across the sensing area, but so too can the gaps shaped in the criticized interdigitated form of the prior art. *See* Silzars Decl., ¶¶ 36-39. This is a critical problem because a skilled artisan must not only know what falls within the scope of the claim term, but what falls outside of it. *Versata Software Inc. v. Zoho Corp.*, 213 F. Supp. 3d 829, 836 (W.D. Tex. 2016). Because a person of ordinary skill cannot determine with reasonable certainty which gaps with shapes run in a "generally straight line" that are sufficiently distinct from the criticized prior art, the claim term is indefinite.

The '770 patent specification is of no help and, in fact, exacerbates the ambiguity of the term. For example, whereas "rectangular" and "quadrilateral" describe a shape that has four sides, the specification uses the term "generally quadrilateral" and "generally rectangular" to describe the purported invention. *See* '770 patent at 8:46-47 ("the teachings of the disclosure recognize that it is possible to use generally quadrilateral electrodes") (emphasis added); *see also* 9:6-10 ("Drive electrodes . . . are generally quadrilateral in shape, and in particular, are generally rectangular."). The '770 patent's use of the word "generally" makes it unclear whether an electrode configuration that is "generally" rectangular or quadrilateral even has four sides. For example, is a pentagon without digitized edges "generally" a quadrilateral? *See id.* at 11:38-39 ("electrode configuration that includes generally quadrilateral, or non-digitized, electrodes") (emphasis added).

The specification's discussion of the gaps between electrodes is equally unhelpful, providing no objective indication about whether any specific shape, threshold, or other characteristics is required for an electrode gap to run in a "generally straight line." For example, the claims recite that the gaps range between "5 micrometers and less than 20 micrometers." '770 patent at 14:24-25. A person of ordinary skill would understand that even small variations in electrode configurations matter when the gaps are only micrometers across. Silzars Decl., ¶¶ 37-38. At this size, small differences have large impacts on the nature of the electrodes, which impacts performance. *Id.* And as the specification acknowledges, patterns of the electrode layers "may improve accuracy of the reported touch coordinate." '770 patent at 8:30:31. As such, "generally straight line" as recited in claim 7 provides no guidance as to how precisely or imprecisely the gaps must be cut to be "generally" straight lines. Silzars Decl. ¶¶ 39-41.

Notably, although Neodron disagrees this term is indefinite, it offers no construction to identify any boundaries for this term, much less one that provides objective boundaries to allow one to determine when this limitation is or is not met. Neodron refers to an undisclosed "plain and ordinary meaning" for this term, but has not explained what that is. Given the lack of teaching in the patent and the Federal Circuit decisions finding similar terms of degree indefinite, the Court should find that "generally straight line" in claim 7 is indefinite.

IV. THE DISPUTED TERMS OF U.S. PATENT NO. 9,823,784

The '784 patent is directed to a drive and sense electrode configuration in a "two-electrode layer construction" for a mutual capacitance touch sensor. *See* '784 patent at 9:62-63; 1:22-24. Drive electrodes are arranged on a lower surface of a substrate with narrow sense electrodes on an upper surface of a substrate. *Id.* at 10:49-52; 13:7-15. Isolated conductive elements may be used to fill in the area between the sense electrodes. *Id.* at 14:33-38.

The claims of the '784 patent are indefinite because they include two similar vague terms, both relating to "substantially area filling" electrodes "relative to" something else, and both of which are indefinite.

A. "wherein the plurality of drive electrodes are substantially area filling within the sensing region relative to the plurality of sense electrodes" (claims 1-3)

Defendants' Construction	Neodron's Construction
Indefinite	Plain and ordinary meaning; no construction necessary

The first disputed term requires not only that drive electrodes be "substantially area filling," but that they be substantially area filling "relative to the plurality of sense electrodes." *Id*. at 20:1-3 (claim 1); 20:20-22 (claim 2); 20:41-43 (claim 3). The patent provides no explanation, however, of what it means to be "substantially area filling" *relative to* something else. There is nothing to clarify whether the comparative language adds a requirement (*e.g.*, that the drive electrodes be both substantially area filling *and* more area filling than the sense electrodes) or *lowers* the threshold (*e.g.*, requiring only that the drive electrodes be area filling compared to the sense electrodes, regardless of whether they are area filling on their own.)

These interpretations lead to very different outcomes. If the area filled by the drive electrodes covers 40% of the first side, one of ordinary skill would likely deem that not "substantially area filling." Silzars Decl. ¶ 90. But viewed "relative to" the area filled by the "sense electrodes," 40% might be "substantially area filling," depending on the meaning of "relative to." If the sense electrodes fill only 10% of the second side, are the drive electrodes covering 40% of the first side now "substantially area filling within the sensing region *relative to* the plurality of sense electrodes"? Under an interpretation that the term requires the drive electrodes to be substantially area filling within the sensing area: no. But under an interpretation that the drive electrodes need only be *more* area filling than the sense electrodes: yes. To change

the hypothetical again, if the sense electrodes instead fill 35%, would the drive electrodes taking up 40% then be "substantially" area filling relative to the sense electrodes? There are numerous possible variations of these relative percentages, and there is no way for one of ordinary skill to determine with reasonable certainty what the "relative to" language means. *Id.*

No part of the specification clarifies this issue. Neither the phrase "area filling . . . relative to" nor the phrase "relative to the sense electrodes" even appears in the specification. The portions of the specification that discuss the concept of "substantiality" do not address how that threshold for the drive electrodes changes relative to the sense electrodes. Rather, the specification discusses drive electrodes that "substantially entirely cover" the first layer—the concept of being substantially area filling on their own, with no reference to the sense electrodes. For example, the specification states: "[T]he drive electrodes substantially entirely cover the first layer with individual ones of the drive electrodes being separated from neighboring drive electrodes by small gaps." '784 patent at 4:24-27; 5:61-64; 6:12-15; 6:22-25.

The few references to a comparison between "drive" and "sense" electrodes do not relate to this term at all. There are passages, for example, suggesting a preference in some embodiments to isolate the sense electrodes from capacitive effects (*e.g.*, noise) by having the drive electrodes "cover the first layer" almost "entirely" (*id.* at 5:18-21)—leaving no room for discussing drive electrodes that need only "substantially" fill the area "relative to" sense electrodes in a second layer. *See also id.* at 4:39-43 ("flooding" of the entire "first layer with conductive material" allows for sense electrodes to be narrower than the physical "object" being sensed). Nor is there any discussion of how these advantages or purpose could be achieved by only having drive electrodes that are substantially area filling *relative to* the sense electrodes. Other passages simply disclose a preference to have wider drive electrodes than sense electrodes.

See, e.g., id. at 6:57-59; 8:27-29. These discussions leave unknown what it means to be substantially area filling *relative to* something else, and what the difference is between that and being area-filling alone.

The silence likely arises because this comparative limitation was added during prosecution, but the specification remained directed at the original claim language. The claim as originally drafted required that the drive electrodes substantially cover the entire first side of the substrate, without the "relative to" language. Ex. A,[3] 4/10/2009 U.S. Pat. App. No. 12/421,705 (Claims) at 1. The applicant subsequently struck "substantially entirely area filling" while attempting to overcome a prior art rejection, then later added the disputed claim language without clarifying whether the new language still required the drive electrodes to substantially cover the surface. Ex. B, 10/6/2011 Amendment at 2; Ex. C, 5/16/2012 Amendment at 2, 9-10. Nothing in the prosecution history clarifies the patentee's intent in adding the new language, or the difference between the term with the new comparative limitation and the original language requiring that the drive electrodes "substantially cover" the surface. This raises the question: is more or less now required by the amended claims?

When rejecting the claims under the broadest reasonable interpretation ("BRI") standard, the Examiner interpreted this term as only requiring the drive electrodes to "take up more space than the sense electrodes." Ex. D, 4/11/2013 Final Rejection at 2. That reading is at odds with the specification, however, which discusses the benefits of having drive electrodes *covering* a substrate, without reference to or comparison to sense electrodes. It also reads out the second

[3] Exhibits A-M referenced herein are attached to the Declaration of John M. Guaragna in Support of Defendants' Opening Claim Construction Brief on the Disputed Terms of the Touch Sensor Patents.

disputed term, as discussed below. The applicant neither refuted this interpretation nor acceded to it, focusing instead on an unrelated limitation to overcome the cited art. The prosecution history provides no assistance to a person of skill in the art to understand the scope of this term, particularly under the *Phillips* standard.

A skilled artisan "must know 'not only what falls inside the scope of the claim term, but also what falls outside of it.' This knowledge establishes the boundaries of the invention." *Versata*, 213 F. Supp. 3d at 836 (finding term "space-constrained display" indefinite where patent "provides examples of when something constitutes a space-constrained display" but "fails to provide information about when something is not a space-constrained display"); *Brazabra*, No. 1-18-cv-00683, Dkt. No. 35 at 10 (term indefinite where "descriptions only provide examples of what may be 'substantial' coverage" but patent did "not otherwise provide any examples of when the adhesive fails to cover 'a substantial area'"). There must be some principle, formula, or even general guidepost to permit a person of skill in the art to evaluate the relationship between the drive and sense electrodes across different touchscreen devices.

No such guidance is found in the '784 patent. There is no reliable way for a person of ordinary skill in the art to know with reasonable certainty whether a given electrode pattern will avoid infringement or what causes the drive electrode pattern to become "substantially area filling" relative to the sense electrode pattern. The Court should find the claims to be indefinite.

B. "together, the plurality of sense electrodes and the plurality of isolated conductive elements are substantially area filling within the sensing region relative to the plurality of sense electrodes"

Defendants' Construction	Neodron's Construction
Indefinite	Plain and ordinary meaning; no construction necessary

The second disputed term for the '784 patent is indefinite for the same reasons as the first. Like the first term, it uses the phrasing "substantially area filling . . . relative to." The difference is that the second term requires that the *sense electrodes* and *isolated conductive elements* be substantially area filling relative to the sense electrodes. This difference does not impact the indefiniteness of the claim. As with the first term, there is no discussion in the specification of what it means for the combination of sense electrodes and isolated conductive elements to be substantially area filling "relative to" the sense electrodes by themselves.

The broadest interpretation of this term would read the term out entirely. As discussed above, the Examiner's interpretation of the first term under BRI was that it required only that the drive electrodes "take up more space than the sense electrodes," which the Examiner reasoned meant they would "essentially be substantially area filling within the sensing region." Ex. D, 4/11/2013 Final Rejection at 2-3. If the Examiner's reading were correct and applied to the second term, this would mean only that the sense electrodes and isolated conductive elements together must take up more space than the sense electrodes alone. That is a truism: A+B>A. Such an interpretation would render the limitation meaningless.

And one of ordinary skill must still guess as to the meaning of this term. Silzars Decl. ¶ 94. As with the first term, the patent provides no explanation of what it means for the sense electrodes and the isolated conductive elements to be substantially area filling relative to the sense electrodes. The specification does not explain whether the comparative language adds a

requirement (*e.g.*, the combination of sense electrodes and isolated conductive elements must be substantially area filling and substantially greater than the sense electrodes alone); lowers the threshold (*e.g.*, the combination of sense electrodes and isolated conductive elements need only be area filling compared to the sense electrodes alone, regardless of whether they are actually substantially area filling); or something else.

As the sense electrodes become smaller—as the specification contemplates by urging narrow sensing lines ('784 patent at 13:8-10)—a skilled artisan is confronted with the question: how much more area must be filled by "isolated conductive elements" to maintain the standard of "substantially area filling"? Silzars Decl., ¶ 95. If the second side is occupied by 30% sense electrodes and 30% isolated conductive elements, would the claims be met? If the sense electrodes became significantly thinner and occupied only 10% of the sensing area, how much area do the "isolated conductive elements" now have to fill to meet the threshold (*e.g.*, 30%, 50%, 70%)?

As with the first term, the specification clarifies nothing. With respect to sense electrodes, the specification discusses preferred arrangements to achieve functions not recited in the claims, but nothing to address the concept of substantiality "relative to" something else. *See, e.g.*, '784 patent at 8:30-34 ("The area between each of said Y-electrodes may be filled with isolated conductive material such that [it is] possible to make narrow Y-electrodes while still have [sic] a pattern that is substantially invisible to the human eye and can reduce the susceptibility to coupling noise from a touch."). There are again no examples of the difference between sense electrodes and isolated conductive elements that would be "substantially area filling" by themselves and an arrangement that would be "substantially area filling" relative to the sense electrodes alone. In such a situation, a skilled artisan cannot be reasonably certain

what is outside of the claim, leaving the claim without a "boundary." *Interval Licensing*, 766 F.3d at 1371; *Brazabra*, No. 1-18-cv-00683, Dkt. No. 35 at 10-11.

The prosecution history again reveals why the specification fails to articulate the boundaries of substantiality "relative to" the sense electrodes. Like the geometry of the drive electrodes, the layout of the sense electrodes and isolated conductive elements was originally framed in absolute terms, requiring that the "sense electrodes and the isolated elements together *substantially entirely* cover the second layer." Ex. A, 4/10/2009 U.S. Pat. Application No. 12/421,705 (Claims) at 2 (emphasis added). The applicant amended the claim, first by removing the word "entirely," then subsequently adding the relative terms as they are today. Ex. B, 10/6/2011 Amendment at 3; Ex. C, 5/16/2012 Amendment at 3. But neither the prosecution history nor the specification provides an explanation of the purposes or boundaries of the comparative language.

Without clarification of what is outside the scope of this term, one of ordinary skill is left uncertain if a given combination of sense electrodes and isolated conductive elements are "substantially area filling within the sensing region *relative to* the sense electrodes" as required by the claims. Silzars Decl., ¶ 96. This term also renders the '784 patent claims indefinite.

V. THE DISPUTED TERMS OF U.S. PATENT NO. 10,088,960

The '960 patent claims a specific, capacitive touch sensor arrangement that purportedly allows the electrodes to "be made of material that is not inherently invisible, e.g. a metal such as copper, but still remain practically invisible." '960 patent at 5:34-36. The specific touch sensor arrangement consists of sense electrodes disposed on one substrate and drive electrodes disposed on another, separate substrate, in which one or both of the drive and sense electrodes comprise a conductive mesh. *E.g.*, *id.* at 28:32-60. The "drive and sense electrodes . . . are made up of thin wires or a mesh of wire instead of a continuous layer of electrode material . . . ." *Id.* at 26:8-11.

"The wires or mesh are manufactured from metal wires e.g. copper, but could also be made of gold or silver." *Id*. at 26:20-21.

A. "interconnecting mesh segments" ('960 patent, claims 1, 9, 17)

Defendants' Construction	Neodron's Construction
"interconnected fine lines of highly conductive wires or traces, instead of a continuous layer of electrode material"	Plain and ordinary meaning, which is "interconnecting lines of conductive electrode material forming a mesh pattern, instead of a continuous layer of conductive electrode material"

The parties agree that "interconnecting mesh segments" are not made of a "continuous layer of electrode material." The parties dispute is centered on (1) whether "mesh segments" are formed from "fine lines of highly conductive wires or traces" or "lines of conductive electrode material," and (2) whether Neodron's circular inclusion "mesh pattern" will be confusing to the jury. Defendant's construction comes from the plain and ordinary meaning of the word "mesh" in combination with the definitions and disclaimers made by the patentee in the specification and prosecution history and is therefore correct.

Independent claims 1, 9, and 17 require that the sense and/or drive electrodes are made of a "conductive mesh," which comprises "a plurality of interconnecting mesh segments." '960 patent at 28:37-52, 29:26-42, 30:30-44. The claims further recite that the "interconnecting mesh segments" of the drive electrodes include "a first mesh segment of the interconnecting mesh segments forms a perimeter that defines the shape of one of the sense electrodes" and "a second mesh segment of the interconnecting mesh segments spans across the perimeter of the first mesh segment." *Id.* at 28:55-60, 29:45-50, 30:47-52. The only portion of the specification that could support this specific arrangement recited in these limitations is the descriptions associated with Figure 17.

The disclosures relating to Figure 17 confirm that "interconnecting mesh segments" are made of fine lines of highly conducting wires or traces. The specification confirms that the "FIG. 17 embodiment uses meshes for both layers." *Id.* at 26:41-42. Referring to Figure 17, the specification expressly discloses that the "mesh" approach is "to form[] each electrode out of a plurality of ***interconnected fine lines of highly conducting wire or traces***." *Id.* at 26:37-39 (emphasis added).

The specification repeatedly describes the mesh electrodes in Figure 17 as being made from fine or thin metal wires or traces:

> FIG. 17 is a view of a front side of a position sensor 10 . . . the drive and sense electrodes shown in the figure are made up of ***thin wires or a mesh of wire instead of the continuous layer of electrode material*** shown in FIG. 12. The drive electrodes 60 are constructed by a ***rectangular perimeter of wire*** to define the shape of the drive electrode with a series of ***diagonal wire lines*** going across the rectangular perimeter.

Id. at 26:3-15 (emphasis added). *see also id*. at 26:22-28 (stating "the sense electrodes are also manufactured using ***a thin metal trace*** that follows the perimeter of the sense electrode pattern shown in FIG. 12" and that "some extra ***wires*** are added within the sense electrode mesh structure as shown in FIG. 17 by short lines 78" (emphasis added)); *id.* at 26:28-33 (stating that the wires connect in a pattern to create redundancy in the electrode in case of defects).

The '960 patent further distinguishes between the materials used to form a mesh and non-mesh. Specifically, the specification discloses using transparent conductors such as ITO for electrodes made of a continuous layer of electrode material as opposed to a mesh. For instance, "Layer 1 is made with non-mesh, i.e. 'solid' electrodes with the small, invisible gaps, for example from ITO, and Layer 2 is made with mesh electrodes, for example out of copper, having line widths sufficiently small to be invisible also." *Id.* at 26:44-48. Indeed, the patentee's "repeated[], consistent[], and exclusive[] us[e]" of wires and traces to describe the material that

makes up a mesh and transparent conductive materials like ITO to describe non-mesh layers manifest "the patentee's clear intent to . . . limit" the term "interconnecting mesh segments" to interconnected fine lines of highly conductive wires or traces, instead of a continuous layer of electrode material. *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1303 (Fed. Cir. 2004); *see also Phillips*, 415 F.3d at 1321 (quoting *Irdeto Access* favorably for the proposition that "[e]ven when guidance is not provided in explicit definitional format, the specification may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents."). *See, e.g.*, '960 patent at 18:6-12 (describing the continuous layer of electrodes forming the electrode pattern depicted in Figure 12 "are of a transparent conductive material, in this case [ITO]"); *id.* at 4:64-5:3 (disclosing "ITO drive electrodes . . . substantially entirely cover the first plane" except for "small gaps" that are "preferably less than 100 micrometers"). In view of the specification, a POSITA would have understood that "interconnecting mesh segments" would be formed from interconnected fine lines of highly conductive wires or traces and not conductors like ITO that are transparent but are not highly conductive. Silzars Decl., ¶¶68-74.

The Defendants' proposed construction is further supported by clear and unequivocal disclaimers the patentee made with respect to "interconnecting mesh segments" in the prosecution of the '960 patent. On three separate occasions, the patentee argued to the examiner that the cited prior art did not disclose the recited "interconnecting mesh segments" limitation because "Hotelling discloses a solid electrode formed from indium tin-oxide (ITO)." Ex. J (10/20/2017 Response to Non-Final Office Action at 8); *see also* Ex. K (3/29/2017 Response to Final Office Action at 9); Ex. L at 332 (9/9/2016 Response to Non-Final Office Action at 8). This understanding of the claim scope is consistent with the Examiner's statement in the Notice

of Allowability that "[t]he scope of the claims is ***specifically limited and narrowly tailored to the specific electrode arrangement as shown in Fig. 17***." Ex. M (6/5/2018 Notice of Allowance at 2) (emphasis added). *See Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1347 (Fed. Cir. 2005) ("Statements about a claim term made by an examiner during prosecution of an application may be evidence of how one of skill in the art understood the term at the time the application was filed."). At no point did the Applicant dispute the Examiner's characterization of the alleged invention. *See TorPharm. Inc. v. Ranbaxy Pharms., Inc.*, 336 F.3d 1322, 1330 (Fed. Cir. 2003) ("Whether the patentee chooses to dispute the examiner's view of matters is relevant to claim interpretation . . . . [I]n ascertaining the scope of an issued patent, the public is entitled to equate an inventor's acquiescence to the examiner's narrow view of patentable subject matter with abandonment of the rest.").

Unlike Neodron's construction, Defendants' construction of "interconnecting mesh segments" includes the plain and ordinary meaning of the term "mesh," which properly informs the jury as to the meaning and scope of the limitation. A "mesh" is defined as "material made of a network of wire or thread." Silzars Decl., Ex. 2, The New Oxford American Dictionary at 1063 (2nd ed. 2005); *see also id.*, Ex. 3, The Am. Heritage Dictionary at 1101 (4th ed. 2000) ("the cords, threads, or wires surrounding . . . the open spaces in a net or network"). Even the dictionary Neodron cites confirms "mesh" is made from a network of wire. *See* "mesh," Lexico, *id.*, Ex. 4 ("Material made of a network of wire or thread"). Accordingly, the plain and ordinary meaning of the term "mesh" is in Defendants' construction, which is consistent with the intrinsic record.

A POSITA would have understood that "interconnecting mesh segments" are "interconnected fine lines of highly conductive wires or traces, instead of a continuous layer of

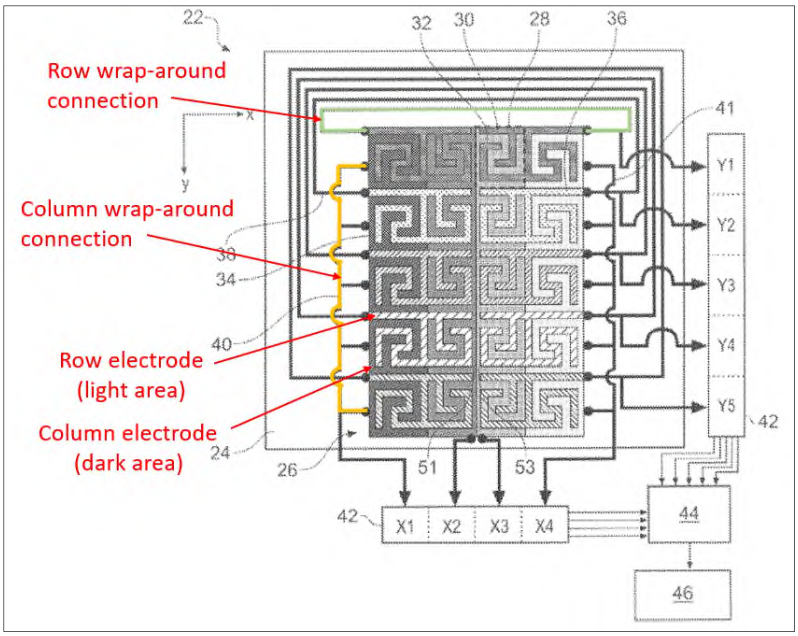
electrode material." Silzars Decl., ¶67. A POSITA would have understood that using opaque materials like copper, or other metals, to form mesh electrodes, that the electrodes would be formed using interconnected fine lines of wire or traces to achieve "optical transmission for transparent embodiments such as used for touch-sensitive displays" and to minimize any perceptible darkening or other loss of display quality. '960 patent at 5:31-36, 18:10-14; Silzars Decl., ¶¶70-73. A POSITA would have known that metal is highly conductive and would need to "be formed into a mesh of interconnected fine lines of wire or trace to remain sufficiently invisible." Silzars Decl., ¶73.

In contrast, a POSITA would have known that ITO is not a metal, but a semiconducting oxide, which is not highly conductive. *Id.* ¶74. Because ITO is a transparent material and not highly conductive, a POSITA "would have understood that electrodes made from ITO would not need to be formed into interconnected fine lines to address the optical transmission concerns associated with opaque metals." *Id.* Rather, such electrodes would be made from ITO and formed into a continuous layer of electrode material.

Neodron's construction improperly broadens the scope of "interconnecting mesh segments" by injecting "mesh pattern" into its construction. A "mesh pattern" is not necessarily a "mesh segment" i.e., the claims require the "interconnecting mesh segments" to be part of the "conductive mesh," not a mesh pattern. Moreover, using the phrase "mesh pattern" to construe the claim term "interconnecting mesh segments" is circular, and such modifications to the claim language would be confusing to a jury. Moreover, Neodron's proposed construction, broadly defining the "mesh segments" as "lines of conductive electrode material," ignores the consistent usage of the term "mesh" in the specification and unequivocal disclaimers made during prosecution.

VI. THE DISPUTED TERMS OF U.S. PATENT NO. 7,821,502

The ’502 patent is directed to a two-dimensional capacitive position sensor such as in a touchpad or a touchscreen. *See* ’502 patent at 1:5-17. Unlike prior art devices with strip-shaped sensing electrodes formed on opposite surfaces of a substrate (e.g., a sheet of glass or plastic) or with two sets of strip-shaped sensing electrodes formed on one surface of a substrate, the ’502 patent discloses interleaved row and column sensing electrodes formed on the same surface of a substrate in a single layer and arranged in an array. *Id*. at 1:19-33, 2:47-67. To provide both as many as four or more rows and four columns in an array, the patent discloses row and column wrap-around connections that connect electrodes at opposite ends of a respective row or column, which purportedly ensures that all electrodes in the same row or column are electrically coupled. *Id*. at 1:19-33, 2:47-67, 11:35-38. One embodiment of a four-column, five-row array is illustrated in annotated and color-coded Figure 3 below:



A. "a substrate having a surface with an arrangement of electrodes mounted thereon" ('502 patent, claims 1-2, 5-8, 11-14, 16)

Defendants' Construction	Neodron's Construction
Plain and ordinary meaning in light of the specification, *i.e.* "a substrate having a side with an arrangement of electrodes mounted thereon"	Plain and ordinary meaning; no construction necessary: "a substrate having a surface with an arrangement of electrodes mounted thereon"

The parties dispute the meaning of a "surface" of a substrate. Defendants correctly contend that a "surface" of a substrate means a side of a substrate, such as the top or bottom side of a sheet of glass or plastic. Neodron, in contrast, apparently believes that a "surface" of a substrate means the entire outside of a substrate, including the top and bottom together.[4]

While both sides maintain that "surface" should be given its plain and ordinary meaning, there appear to be dramatically different views on what that plain and ordinary meaning is. These differing views require the Court to resolve the dispute about the scope of the claim. *See Digital Retail Apps Inc. v. H-E-B, LP*, No. 6:19-cv-0067, at 18-19 (W.D. Tex., Jan. 23, 2020) ("Even though the Court believes that this term should have its plain-and-ordinary meaning, because the parties differ with respect to what the plain-and-ordinary meaning is, the Court will provide a construction for the plain-and-ordinary meaning."), citing *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008) ("A determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a

[4] Defendants say "apparently" because Neodron refuses to explain how its non-construction differs from Defendants' construction. During the meet-and-confer process, Defendants explained that their construction was intended to ensure that "surface" meant a single side of a substrate. Defendants asked whether Neodron's construction was different, but Neodron refused to answer, and would not say whether Neodron agreed that "surface" meant a side of the substrate. The dictionary definitions identified by Neodron in its disclosure of extrinsic evidence (e.g., "the exterior or upper boundary of an object or body," Ex. G, NEO-HP00003875) indicate a contrary position.

term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute."). Here, Defendants' construction is the only plain and ordinary meaning and is consistent with the specification and file history. Neodron's apparent interpretation, in contrast, conflicts with both the specification and the file history.

The Background of the Invention, for instance, describes a prior art touch panel that "comprises a number of aligned strip electrodes (columns) mounted on an upper surface of an insulating substrate 16 and a number of horizontally aligned strip electrodes (rows) mounted on an opposing lower surface of the insulating substrate." '502 patent at 2:21-25 (emphases added); *see also id*. at 1:34-37 ("XY types invariably involve a sensing surface on the user-side or 'first surface' of the touch area."). The Background of the Invention further clarifies this distinction by contrasting the touch device of the '502 patent, which uses only one side of the substrate, from the prior art that used both sides:

> Because the position sensor is based on sensing electrodes on only a single surface, it can be cheaper to manufacture than known double-sided position sensors. This also means the sensing electrodes can be deposited directly onto a surface for which the opposing surface is inaccessible (*e.g.* a display screen).

Id. at 3:1-7 (emphases added). The patent's Abstract also discloses "[t]he sensor comprises a substrate having an arrangement of electrodes on a single surface thereof." *Id*. at Abstract (emphasis added). The specification further clarifies that whatever electrode arrangement is used, it is provided on only one side of the substrate: "there is no limit on the number of rows that may [sic] used while still providing for a sensing area having a single layer of sensing electrodes within the sensing area (i.e. sensing electrodes on one side of the substrate only)." *Id.* at 11:29-32 (emphasis). During prosecution, the applicants again reinforced this distinction, telling the Examiner that "[a]djacent electrode plates [of the Mabusth reference] within the column are connected together with conductors 46 located on the bottom surface of the

substrate." Ex. E, 11/24/2009 Appl. Resp. at 6 (emphasis added); *see also* Ex. F, 5/19/2010 Appl. Resp. at 6.

The repeated references in the patent and the file history to "an upper surface," "an opposing lower surface;" "a bottom surface" and "a single surface" of a substrate all confirm that the patent uses "surface" to mean "side." None of the qualifiers like "upper," "lower," or "opposing" would have been necessary, or would make any sense, if a substrate had only a single outside surface, given that sheets of glass and plastic used as substrates in these devices are solid objects that have no other surface under this (incorrect) interpretation. This intrinsic evidence comports with the Webster's Dictionary definition of "surface" as "any face of a body or thing; the six surfaces of a cube." Ex. G.[5] Webster's Dictionary and others include other definitions, including broader ones, but only the "any face of a body or thing" definition and the attendant six surfaces of a cube example are consistent with the plain and ordinary meaning of "surface" as used in the '502 patent specification and file history.

Defendants' construction also comports with the alleged advantages of the invention disclosed in the '502 patent. As discussed above, it was known in the art to place row electrodes on the upper surface of a substrate and column electrodes on the lower surface of the substrate. One of the alleged advantages of the '502 patent is that, because "the position sensor is based on sensing electrodes on only a single surface, it can be cheaper to manufacture than known double-sided position sensors." '502 patent at 3:1-3. Consistent with this teaching, every disclosed embodiment includes row and column sensing electrodes arranged on one side of a substrate. Indeed, the elaborate arrangements of electrodes and their interconnections shown in Figures 3,

[5] The "six surfaces of a cube" make clear that "face" in the Webster's dictionary definition means side as it is understood that a cube has six sides.

7, and 8 would be unnecessary if the row and column sensing electrodes were arranged on opposite sides of a substrate, as in the prior art embodiment shown in Figure 2. Thus, Defendants' construction reflects the plain and ordinary meaning and is consistent with the specification and the file history, both linguistically and in substance.

In contrast, Neodron's apparent interpretation of "surface" as including the entire outside of the substrate is contrary to the specification and file history. If a substrate had only a single outside surface, then references to an "upper surface," a "lower surface," and a "bottom surface" would not make sense because all of these surfaces would be the same single surface. And if a substrate had only a single outer surface, there would not be "an opposing lower surface" because there would be no surface for the lower surface to "oppose." The intrinsic evidence consistently refers to the substrate having multiple surfaces, and there is no instance in the intrinsic record that supports Neodron's apparent position.[6]

Because Neodron's dictionary definition is contrary to the specification and the file history, the Court should reject it. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1324 (Fed. Cir. 2005) (dictionary cannot be used to contradict claim meaning that is unambiguous in light of the intrinsic evidence); *see also PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC*, 815 F.3d 747, 752-53 (Fed. Cir. 2016) (rejecting dictionary definition that is inconsistent with how claim term was used in the specification). Although the result in *PPC Broadband* was in the context of a broadest reasonable interpretation standard, the court indicated that the result would

[6] Neodron's proposal also is contrary to how "surface" is used in the '770 patent described above, which lists the same original assignee. That patent uses "surface" to refer to a side of a substrate, just like Defendants' construction does: "Substrate 101 has a plurality of surfaces, including a first surface 101, a facing display 110 and a second surface 101b facing cover panel 106." '770 patent at 6:39-41.

be even clearer in a district court case employing the *Phillips* standard: "If we were tasked with reviewing the Board's construction according to *Phillips* … this case would be straightforward … [because] PPC Broadband's construction is the only construction of the term consistent with the use of the same term throughout the specification." *Id*. at 756. Thus, Defendants' construction unquestionably is the correct one.

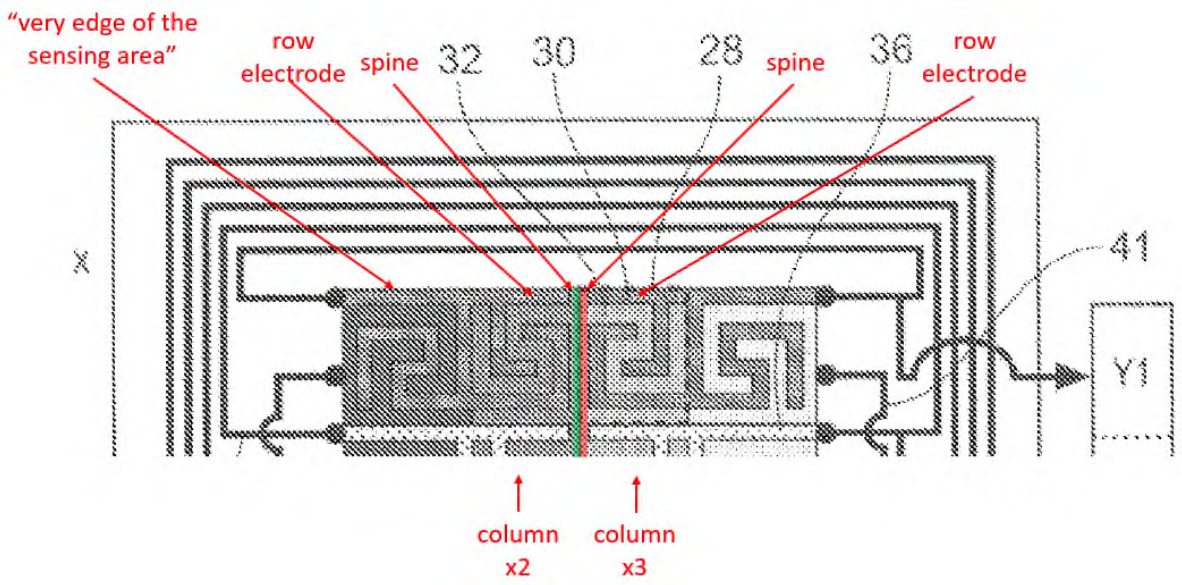
B. "sensing area" ('502 patent, claims 1-2, 5-8, 11-14, 16)

Defendants' Construction	Neodron's Construction
"an area defined by the sensing electrodes"	"an area defined by the sensing cells"

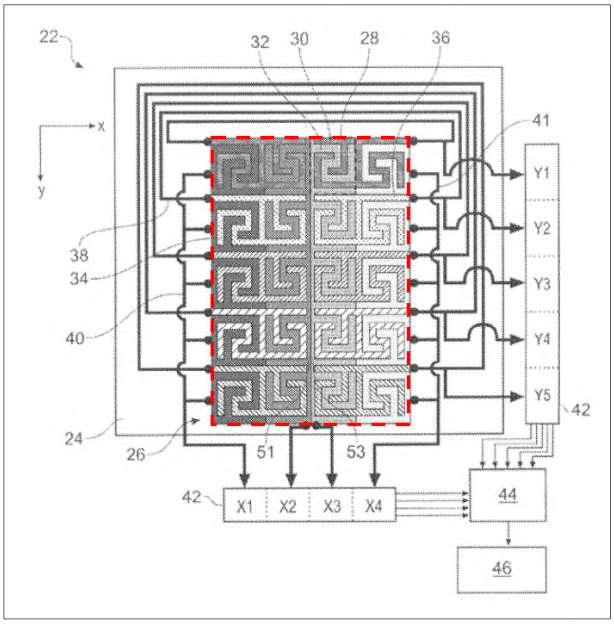
The difference between the parties' constructions turns on whether the claimed "sensing area" is defined by sensing electrodes (as Defendants contend) or by sensing cells (as Neodron contends). The Court should adopt Defendants' construction because it comes from the claim and the specification and, unlike Neodron's construction, provides a jury with the information it will need to do its job.

Importantly, Defendants' construction is dictated by claim 1, which recites "wherein the electrodes define an array of sensing cells arranged in columns and rows to form a capacitive sensing area" and is the plain and ordinary meaning in view of this claim language. (Emphasis added.) Defendants' construction is also supported by an unmistakable passage in the specification that discloses that the "sensing electrodes 26 define a sensing area within which the position of an object (e.g. a finger or stylus) adjacent to the sensor may be determined." '502 patent at 5:44-47 (emphasis added). That the electrodes define the sensing area is again indicated in a discussion of a possible alternative embodiment to Figure 3 in which "the spines connecting between the column sensing electrodes of columns x2 and x3 need not extend to the very edge of the sensing area." *Id*. at 7:3-10 (emphasis added). The "spines" referred to in this

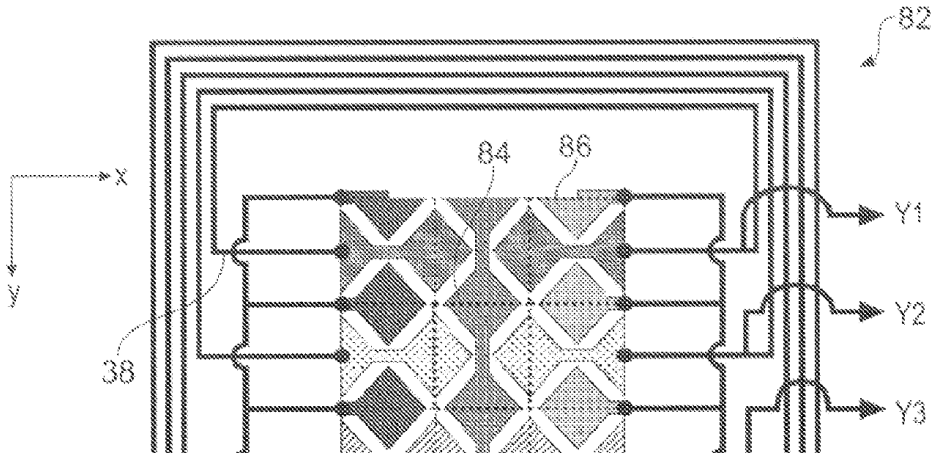
passage are the conductive material between the row electrodes in columns x2 and x3 as indicated by the red and green shading in the annotated excerpt of Figure 3 below:



The statement that the spines "need not extend to the very edge of the sensing area" in the alternative embodiment makes clear that the spines do extend "to the very edge of the sensing area" in Figure 3. Thus, this passage confirms that the sensing area does not extend beyond (i.e., it is "define[d] by") the sensing electrodes. For example, the area inside the red dashed line added to the excerpt of Figure 3 below is the sensing area defined by the sensing electrodes:

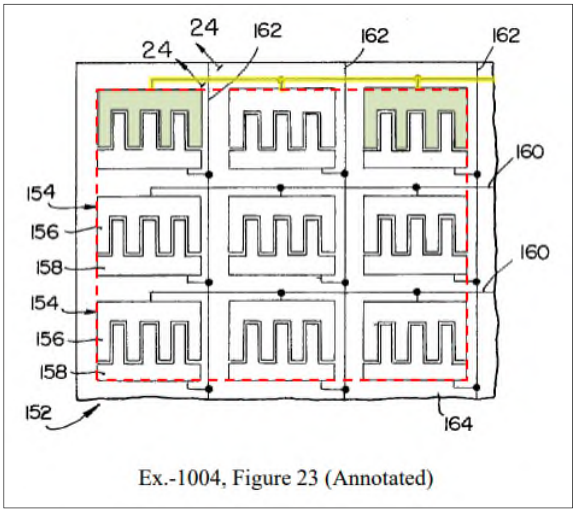


This understanding comports with the illustrations of sensing cells 28 in Figure 3 above and sensing cells 84 and 86 in Figure 8 shown in the excerpt that figure below, in which the boundary of the sensing cells that form the sensing area are also defined by the sensing electrodes that constitute the sensing cell as indicated by the dotted lines.



During the meet-and-confer process, Neodron refused to explain why it disagreed with Defendants' construction, but it appears Neodron's proposed construction for "sensing area" is designed to provide Neodron with the flexibility to twist the claim language like a nose of wax to

try to avoid the prior art while trying to establish infringement. For instance, in the pending IPR on the '502 patent, the petitioners contended the prior art Barkan[7] patent has a sensing area bounded by the outer edges of the electrodes as indicated by dashed red lines in the illustration below:



Ex.-1004, Figure 23 (Annotated)

Ex. H, IPR2020-00282, Paper 2 (Petition), at 26. In its preliminary response, Neodron argued that the yellow-highlighted wrap-around connector that connects the green row-sensing electrodes on the top row of annotated Figure 23 above were not outside the sensing area (and thus the claims are not invalid) because, in Neodron's view, the sensing area extends beyond the area defined by the electrodes. Ex. I, IPR2020-00282, Patent Owner Preliminary Response (Paper 8), at 13 ("because the column connection traces 162 extend all the way to the top edge of the touch sensor, which suggests that the location where the top row connection trace (shown in yellow) resides is not 'outside of the sensing area.'") (emphasis added). Neodron's proposed construction for "sensing area" allows it to make that argument because its construction of "sensing area" refers to "sensing cells" without indicating where the boundary of a sensing cell

[7] U.S. Patent No. 3,757,322 issued to Barkan et al.

lies. At the same time, its proposed construction would also allow Neodron to argue that the same yellow-highlighted connector, if it were in an accused product, is outside the sensing area, again because Neodron's construction do not define the boundaries of the sensing cell or the sensing area. The Court should therefore reject Neodron's unhelpful, malleable construction.

C. "wherein row sensing electrodes of sensing cells at opposing ends of at least one of the rows are electrically coupled to one another by respective row wrap-around connections made outside of the sensing area" ('502 patent, claims 1-2, 5-8, 11-14, 16)

Defendants' Construction	Neodron's Construction
Plain and ordinary meaning, *i.e.*, "wherein row sensing electrodes of sensing cells at opposing ends of at least one of the rows are electrically coupled to one another by respective row wrap-around connections made outside of the sensing area"	Plain and ordinary meaning, which is "wherein, in at least one of the rows in the sensing area, row sensing electrodes of sensing cells at opposing ends of that row are electrically coupled to each other by connections that wrap around and are made outside of the sensing area"

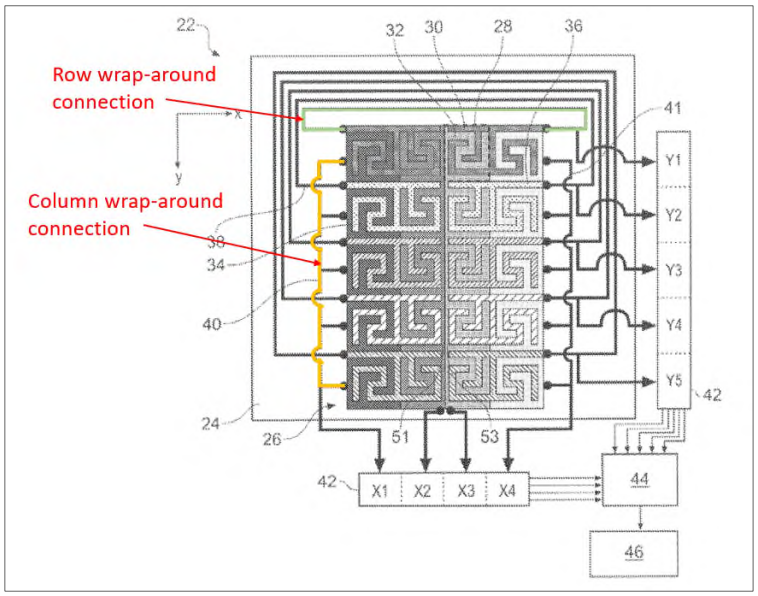
This term is clear and needs no construction. The Court should reject Neodron's proposed construction because it (1) largely repeats the words of the claim, (2) improperly imports a limitation not found in the claim language, and (3) is contrary to how wrap-around connections are described in the patent.

Defendants' constructions of "electrically coupled" and "sensing area," are all that are required to define this term. "Row," "sensing," "opposing," "wrap-around," and "connections" are all plain English words that a jury can understand. They do not need construction. *See MV3 Partners LLC v. Roku, Inc.*, No. 6-18-cv-00308 at 6 (W.D. Tex., Oct. 2, 2019) ("none of these terms are difficult technical terms for which a construction would help the jury understand the meaning of the term."). Neodron's construction, on the other hand, is not helpful because it largely repeats the words that are already in the claim. *See Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1360 (Fed. Cir. 2008) ("Claim construction … usually requires use of words other

that the words that are being defined."); *Adjustacam, LLC v. Amazon.com, Inc.*, No. 6:10-cv-329 at 10 (E.D. Tex., April 10, 2012) ("On the other hand, Defendants' proposed construction merely restates what is already contained in the claims.").

The Court also should reject Neodron's proposal because it improperly injects a requirement into claim 1 for "connections that wrap around … the sensing area," which is not recited in the claim. Claim 1 requires only that the "wrap around connection" must (1) wrap from a row sensing electrode of a sensing cell at one end of a row around other electrodes in the row to a row sensing electrode of a sensing cell at the opposite end of the row, and (2) be made outside of the sensing area. Nothing in the claim language requires that the connection wrap around the sensing area, as Neodron's proposal would require.

To the extent the additional limitation "wrap around the sensing area" can even be understood, Neodron's proposal conflicts with the illustrations of column wrap-around connectors in the preferred embodiments in the specification. The connection 40 of Figure 3 (highlighted in orange below) and similar connections in Figures 3, 7 and 8 that connect electrodes in cells at the opposite ends of columns are the only possible column wrap-around connections illustrated in the '502 patent. An argument that these are not the "column wrap-around connections" recited in claim 4 would therefore run afoul of the long-standing principle set forth in *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583-84 (Fed. Cir. 1996) that a claim construction that excludes the preferred embodiment is "rarely, if ever, correct." These connectors do not wrap around the sensing area as shown in the annotated version of Fig. 3 below. *See also* '502 patent at 3:17-20, claim 4.



The Court should reject Neodron's attempt to import unclaimed requirements into this plain English limitation.

VII. CONCLUSION

For the above reasons, Defendants request that their proposed constructions be adopted.

Dated: April 17, 2020

/s/ *John M. Guaragna*

John M. Guaragna
Brian Erickson
DLA PIPER LLP (US)
401 Congress Avenue, Suite 2500
Austin, TX 78701-3799
Telephone: (512) 457-7000
Facsimile: (512) 457-7001

Sean C. Cunningham (*pro hac vice*)
Erin P. Gibson (*pro hac vice*)
Robert Williams (*pro hac vice*)
David R. Knudson (*pro hac vice*)
DLA PIPER LLP (US)
401 B Street, Suite 1700
San Diego, CA 92101-4297
Telephone: (619) 699-2700
Facsimile: (619) 699-2701

Erik Fuehrer (*pro hac vice*)

DLA PIPER LLP (US)
2000 University Avenue
East Palo Alto, CA 94303-2214
Telephone: (650) 833-2000
Facsimile: (650) 833-2001

Barry K. Shelton
Texas State Bar No. 24055029
SHELTON COBURN LLP
311 RR 620, Suite 205
Austin, TX 78734-4775
bshelton@sheltoncoburn.com
(512) 263-2165 (Telephone)
(512) 263-2166 (Facsimile)

Counsel for Defendants Microsoft Corporation and HP Inc.

/s/ *Nicholas J. Whilt*
Ryan K. Yagura (Tex. Bar No. 24075933)
ryagura@omm.com
Nicholas J. Whilt (Cal. Bar No. 247738)
nwhilt@omm.com
O'MELVENY & MYERS LLP
400 S. Hope Street
Los Angeles, CA 90071
Telephone: 213-430-6000
Facsimile: 213-430-6407

Marc J. Pensabene (N.Y. Bar No. 2656361)
mpensabene@omm.com
O'MELVENY & MYERS LLP
Times Square Tower, 7 Times Square
New York, NY 10036
Telephone: 212-326-2000
Facsimile: 212-326-2061

John C. Kappos
jkappos@omm.com
O'MELVENY & MYERS LLP
610 Newport Center Drive, 17th Floor
Newport Beach, California 92660
Telephone: 949-823-6900
Facsimile: 949-823-6994

Darin Snyder
dsnyder@omm.com
O'MELVENY & MYERS LLP
Two Embarcadero Center, 28th Floor
San Francisco, CA 94111
Telephone: 415-984-8700
Facsimile: 415-984-8701

Attorneys for Defendants Samsung Electronics, Co., Ltd. and Samsung Electronics America, Inc.

By: /s/ *Michael J. Newton*
Michael J. Newton (TX Bar No. 24003844)
Brady Cox (TX Bar No. 24074084)
ALSTON & BIRD LLP
2200 Ross Avenue, Suite 2300
Dallas, Texas 75201
Phone: (214) 922-3400
Fax: (214) 922-3899
mike.newton@alston.com
brady.cox@alston.com

Charles A. Naggar (admitted pro hac vice)
NY Bar No. 5356449
ALSTON & BIRD LLP
90 Park Avenue, 15th Floor
New York, NY 11230
Phone: (212) 210-9400
Fax: (212) 210-9444
charles.naggar@alston.com

John M. Guaragna (TX Bar No. 24043308)
Brian K. Erickson (TX Bar No. 24012594)
DLA Piper LLP (US)
401 Congress Avenue, Suite 2500
Austin, TX 78701-3799
Phone: 512.457.7000
Fax: 512.457.7001
john.guaragna@dlapiper.com
brian.erickson@dlapiper.com

Sean C. Cunningham (admitted pro hac vice)
CA Bar No. 98895

Erin Gibson (admitted pro hac vice)
CA Bar No. 229305
Robert Williams (admitted pro hac vice)
CA Bar No. 246990
DLA Piper LLP (US)
401 B Street, Suite 1700
San Diego, CA 92101-4297
Phone: 619.699.2700
Fax: 619.699.2701
sean.cunningham@dlapiper.com
erin.gibson@dlapiper.com
robert.williams@dlapiper.com

Jeffrey T. Lindgren (admitted pro hac vice)
CA Bar No. 176400
Vasquez Benisek & Lindgren LLP
1550 Parkside Drive, Suite 130
Walnut Creek, CA 94596
925-627-4250
Fax: 925-403-0900
jlindgren@vbllaw.com

Richard C. Vasquez (admitted pro hac vice)
CA Bar No. 127228
Vasquez Benisek & Lindgren LLP
1550 Parkside Drive, Suite 130
Walnut Creek, CA 94596
Phone: 925-627-4250
Fax: 925-403-0900
rvasquez@vbllaw.com

M. Craig Tyler
Perkins Coie LLP
500 W. 2nd Street
Suite 1900
Austin, TX 78701
Phone: 737.256.6100
Fax: 737.256.6300
CTyler@perkinscoie.com

Chao (Wendy) Wang (admitted pro hac vice)
CA Bar No. 289325
NY Bar No. 5002704
Perkins Coie LLP
3150 Porter Drive
Palo Alto, CA 94304-1212

Phone: 650-838-4500
Fax: 650-838-4350
wwang@perkinscoie.com

Tariq Javed (admitted pro hac vice)
DC Bar No. 1618071
Perkins Coie LLP
700 Thirteenth Street N.W., Suite 800
Washington, DC 20005
Phone: 202-654-6200
Fax: 202-654-6211
TJaved@perkinscoie.com

Attorneys for Defendant
Dell Technologies Inc.

/s/ Nathan Sabri
Stefani E. Shanberg (Texas Bar No. 24009955)
sshanberg@mofo.com
Nathan B. Sabri (admitted pro hac vice)
nsabri@mofo.com
Robin Brewer (admitted pro hac vice)
rbrewer@mofo.com
MORRISON & FOERSTER LLP
425 Market Street
San Francisco, CA 94105
Tel: (415) 268-7000

Attorneys for Defendant Amazon.com, Inc.

CERTIFICATE OF SERVICE

I certify that the foregoing document was electronically filed on April 17, 2020, pursuant to Local Rule CV-5(a), and has been served on all counsel whom have consented to electronic service. Any other counsel of record will be served by first class U.S. mail on this same date.

John M. Guaragna
John M. Guaragna